

to a patient face-down or prone position; wherein the longitudinal axis of rotation of the patient support assembly is coaxial with the circular structure. The load from the patient support assembly is transferred to the frame through the perimeter of the circular structure. The circular support may comprise one or more ring-shaped rails mounted on guide rollers on the frame. Alternatively, the perimeter of the circular support may be cylindrically shaped or barrel-shaped.

Accordingly, an apparatus and method for treating a patient with respiratory problems, and in particular, adult respiratory distress syndrome, is provided in which a patient may be secured to a mechanically powered patient support platform; the patient rotated from a substantially supine position to a substantially prone position; and the patient alternately laterally rotated about a longitudinal axis of the bed across an arc spanning from between positive 15 to 62 degrees from the prone position to a negative 15 to 62 degrees from the prone position.

*In the claims, please amend the existing claims as follows:*

1. (ONCE AMENDED) A therapeutic bed comprising:  
a base frame,  
a patient support platform rotatably mounted on the base frame for rotational movement about a longitudinal rotational axis of the patient support platform, and  
a motor operable to rotate ~~drive means for rotation~~ of the patient support platform on the base frame, and  
a guide body defining one or more patient care line receiving slots operable to guide one or more patient care lines from an apparatus external of the patient support platform to a patient on the patient support platform.

~~characterised in that there is provided guide means for patient care lines at one or both ends of the patient support platform for guiding the patient care lines between a patient on the patient support platform and associated apparatus externally of the patient support platform, said guide means being mounted at or adjacent the longitudinal rotational axis of the patient support platform.~~

2. (ONCE AMENDED) A therapeutic bed as claimed in claim 1, wherein the guide body is mounted on the patient support platform ~~means is provided for securing the patient care lines on the guide means.~~

3. (PLEASE CANCEL)

4. (ONCE AMENDED) A therapeutic bed as claimed in claim 1–3, further comprising ~~wherein the tubular guide has a bore for through passage of the patient care lines and wherein the guide body comprises a bore insert that is provided for engagement within the bore, the bore insert defining having a number of spaced-apart slots about a periphery of the insert, each slot for receipt of a patient care line, each slot being closed by a side wall of the bore when the insert is mounted within the bore.~~

5. (PLEASE CANCEL)

6. (ONCE AMENDED) A therapeutic bed as claimed in claim 1-5 wherein the slots are guide means has a guide body with a number of spaced apart along the periphery of the guide body peripheral slots for reception of patient care lines.

7. (ONCE AMENDED) A therapeutic bed as claimed in claim 1-6 wherein each slot has a side opening, and a spring-loaded finger normally biased into a slot closing position across the side opening and retractable against the spring bias, the finger facilitating secured retention of a line and also facilitating insertion and removal of a line into or from the slot-closure means is engagable across the side opening to releasably retain a line within the slot.

8. (PLEASE CANCEL).

9. (ONCE AMENDED) A therapeutic bed as claimed in claim 1-7 wherein each slot has a side opening and the closure means is a quick-release strip engagable across the side opening.

10. (TWICE AMENDED) A therapeutic bed as claimed in claim 1-5 wherein the guide body is movably mounted on the patient support platform ~~for vertical movement of the guide body on the patient support platform.~~

12. (TWICE AMENDED) A therapeutic bed as claimed in claim 1 wherein there is provided a plurality of prone support elements mounted between a head end and a foot end of the patient support platform retaining means for releasably securing a patient on the patient support

platform, said prone support elements ~~retaining means~~ being operatively connected to the motor drive ~~means~~ to regulate rotation of the patient support platform in response to correct engagement of the plurality of prone support elements ~~retaining means~~.

13. (ONCE AMENDED) A therapeutic bed as claimed in claim 12 wherein the plurality of prone support elements comprise matching pairs of support elements ~~retaining means~~ ~~comprises a number of pairs of support elements mounted between a head end and a foot end of the patient support platform,~~

~~each pair of support elements comprising associated support elements mounted on opposite sides of the patient support platform and having a fasteners to secure the~~ matching support elements together to retain a patient on the patient support platform,

~~sensing means~~ sensors associated with each fastener that ~~to~~ sense correct engagement of the fastener,

said sensors ~~sensing means~~ being connected to a controller for controlling operation of the motor drive ~~means~~.

14. (ONCE AMENDED) A therapeutic bed as claimed in claim 13 wherein each fastener has a complementary pair of fastener parts, namely a first fastener part and a second fastener part, one fastener part being mounted on each of the pairs of support elements,

the first fastener part being normally biased out of engagement with the second fastener part,

the first fastener part cooperating with the sensor when in an engaged position to indicate that the fastener parts are engaged.

17. (ONCE AMENDED) A therapeutic bed as claimed in claim 16 wherein each side rail is removably mounted on the patient support platform having means for releasably engaging the patient support platform,

locking means to secure the rail on the patient support platform,

rail sensing means to sense interlocking engagement of the rail with the patient support platform,

said rail sensing means being operatively connected to the controller for the motor drive means-such that the motor drive means will only operate if the rail is correctly engaged with the patient support platform.

19. (TWICE AMENDED) A therapeutic bed as claimed in claim 1 wherein one or more hinged panels are provided in the patient support platform to provide access to a patient when the patient support platform is in an inverted position,

each panel having panel locking means to secure the panel in a closed position on the patient support platform,

panel sensing means being provided to sense locking engagement of the panel with the patient support platform,

said panel sensing means being operatively connected to the controller for the motor drive means-such that the motor drive means will only operate if the panel is locked in a closed position on the patient support platform.

20. (ONCE AMENDED) A therapeutic bed as claimed in claim 1 wherein there is provided means for sensing the orientation of the patient support platform on the base frame, and means for controlling operation of the motor drive means in response to the sensed position of the patient support platform on the base frame.

21. (PLEASE CANCEL)

*Please add the following new claims:*

23. (NEW CLAIM) A therapeutic bed comprising:

a frame;

a patient support platform mounted on the frame and rotatable about a longitudinal axis of rotation through substantially 180° from a patient face-up or supine position to a patient face-down or prone position;

the patient support platform comprising a hinged section that provides access to the back side of a patient when the patient support platform is in the patient face-down or prone position;

a plurality of prone patient supports mounted to opposite sides of the patient support platform; and

a motor operationally engaged with the patient support platform to provide controlled rotational movement to the patient support platform.

24. (NEW CLAIM) The therapeutic bed of claim 23, wherein at least some of the prone patient supports are hingedly mounted to the patient support platform.

25. (NEW CLAIM) The therapeutic bed of claim 23, wherein at least some of the prone patient supports are split adjacent the longitudinal axis of rotation of the patient support platform.

26. (NEW CLAIM) The therapeutic bed of claim 25, wherein at least some of the prone patient supports are operable to be locked to each other.

27. (NEW CLAIM) The therapeutic bed of claim 26, wherein at least some of the prone patient supports are hingedly mounted to the patient support platform.

28. (NEW CLAIM) The therapeutic bed of claim 25, wherein at least some of the prone patient supports are operable to be locked to each other with fasteners.

29. (NEW CLAIM) The therapeutic bed of claim 25, wherein at least some of the prone patient supports are operable to be locked to each other with straps and fasteners.

30. (NEW CLAIM) The therapeutic bed of claim 23, the patient support platform having side rails extending upwardly from the opposite lateral sides of the patient support platform, at least some of the prone patient supports being mounted to the side rails of the patient support platform.

31. (NEW CLAIM) The therapeutic bed of claim 30, wherein at least some of the prone patient supports are hingedly mounted to the side rails of the patient support platform.

32. (NEW CLAIM) The therapeutic bed of claim 31, wherein at least some of the prone patient supports are split adjacent the longitudinal axis of rotation of the patient support platform.

33. (NEW CLAIM) The therapeutic bed of claim 32, wherein at least some of the prone patient supports are operable to be locked to each other.

34. (NEW CLAIM) The therapeutic bed of claim 32, wherein at least some of the prone patient supports are operable to be locked to each other with fasteners.

35. (NEW CLAIM) The therapeutic bed of claim 32, wherein at least some of the prone patient supports are operable to be locked to each other with straps and fasteners.

36. (NEW CLAIM) The therapeutic bed of claim 23, wherein one of the prone patient supports is an abdomen support adjustable to accommodate abdomens of varying sizes.

37. (NEW CLAIM) The therapeutic bed of claim 36, wherein the abdomen support is comprised of a flexible material.



38. (NEW CLAIM) The therapeutic bed of claim 23, wherein at least one of the prone patient supports comprises a strap to support the patient's head.

39. (NEW CLAIM) The therapeutic bed of claim 23, wherein the prone patient supports comprise a head support section separately adjustable from a shoulder and upper body support section separately adjustable from an abdomen support section separately adjustable from a lower body support section.

40. (NEW CLAIM) A therapeutic bed comprising:

a frame;

a patient support platform rotatably mounted on the frame about a longitudinal axis of rotation, the patient support platform being rotatable from a patient face-up or supine position to a patient face-down or prone position;

a motor operationally engaged with and operable to alternately rotate the patient support platform about the longitudinal axis of the bed through an arc of alternating rotation substantially centered at the prone position; and

prone patient supports operable to retain a patient on the patient support platform and to provide support to the patient while the patient support platform is rotated from the supine to prone position and while the patient support platform is alternately rotated through said arc of alternating rotation;

wherein the therapeutic bed is operable to provide lateral rotation therapy to the patient while the patient is in the prone position.

41. (NEW CLAIM) The therapeutic bed of claim 40, wherein the motor is operationally engaged with and operable to rotate the patient support platform through an arc of alternating rotation spanning from between positive 15 to 62 degrees from the prone position to a negative 15 to 62 degrees from the prone position.

42. (NEW CLAIM) The therapeutic bed of claim 40, further comprising a pair of side rails extending upwardly from the patient support platform.

43. (NEW CLAIM) The therapeutic bed of claim 42, wherein the side rails are operable to be displaced from their upwardly extending position on the patient support platform to facilitate mounting of patients on the patient support platform.

44. (NEW CLAIM) A therapeutic bed comprising:

a frame;

a patient support platform mounted on the frame and rotatable about a longitudinal axis of rotation through substantially 180° from a patient face-up or supine position to a patient face-down or prone position;

a pair of side rails extending upwardly from the patient support platform; and

a motor operationally engaged with the patient support platform to provide controlled rotational movement to the patient support platform.

45. (NEW CLAIM) The therapeutic bed of claim 44, wherein the side rails are operable to be displaced from their upwardly extending position on the patient support platform to facilitate mounting of patients on the patient support platform.

46. (NEW CLAIM) The therapeutic bed of claim 45, wherein the side rails are operable to be locked into their upwardly extending position on the patient support platform.

47. (NEW CLAIM) The therapeutic bed of claim 44, further comprising prone patient supports mounted to the side rails.

48. (NEW CLAIM) The therapeutic bed of claim 47, wherein the side rails are operable to be displaced from their upwardly extending position on the patient support platform to facilitate mounting of patients on the patient support platform.

49. (NEW CLAIM) The therapeutic bed of claim 48, wherein the side rails are operable to be locked into their upwardly extending position on the patient support platform.

50. (NEW CLAIM) A therapeutic bed operable to provide lateral rotational therapy to a patient in both the supine and prone positions, the bed comprising:

a frame;

a patient support assembly mounted on the frame;

wherein the patient support assembly comprises a patient support platform mounted on a circular structure having a center and a perimeter, the patient support assembly being rotatable

about a longitudinal axis of rotation through substantially 180° from a patient face-up or supine position to a patient face-down or prone position;

wherein the longitudinal axis of rotation of the patient support assembly intersects the center of the circular structure;

wherein load from the patient support assembly is transferred to the frame through the perimeter of the circular structure; and

a motor operationally engaged with the patient support assembly to provide controlled rotational movement to the patient support assembly.

51. (NEW CLAIM) The therapeutic bed of claim 50, wherein the circular support comprises at least one ring-shaped rail.

52. (NEW CLAIM) The therapeutic bed of claim 50, wherein the perimeter of the circular support is barrel-shaped.

53. (NEW CLAIM) The therapeutic bed of claim 50, wherein the circular support is cylindrically shaped.

54. (NEW CLAIM) The therapeutic bed of claim 50, wherein the circular support is mounted on guide rollers on the frame.

55. (NEW CLAIM) The therapeutic bed of claim 50, further comprising prone patient supports mounted to opposite sides of the patient support assembly.

56. (NEW CLAIM) The therapeutic bed of claim 55, wherein the patient support assembly further comprises side rails extending upwardly from the opposite lateral sides of the patient support assembly.

57. (NEW CLAIM) The therapeutic bed of claim 56, wherein at least some of the prone patient supports are mounted to the side rails.

58. (NEW CLAIM) The therapeutic bed of claim 57, wherein at least some of the prone patient supports are hingedly mounted to the side rails.

59. (NEW CLAIM) A method for treating a patient with respiratory problems comprising:

securing a patient to a mechanically powered patient support platform;

rotating the patient from a substantially supine position to a substantially prone position;

and

alternately laterally rotating the patient about a longitudinal axis of the bed across an arc spanning from between positive 15 to 62 degrees from the prone position to a negative 15 to 62 degrees from the prone position.

60. (NEW CLAIM) A method for treating patients with adult respiratory distress syndrome comprising:

securing a patient to a mechanically powered patient support platform;